IN THE CLAIMS

For the convenience of the Examiner all pending claims of the present Application are shown below whether or not an amendment has been made.

1. **(Currently Amended)** A <u>computer-implemented</u> method for allocating data in a hierarchical organization of data, comprising:

determining new values for one or more parents in the organization of data;

determining current values for one or more children in the organization of data, each child being hierarchically related to one or more of the parents;

determining the relationship between each parent and its children;

determining a variation for each child; and

determining a new value for each child by allocating the new values of the parents to the children based on the parent-child relationships, the current values of the children, and the variations of the children.

2. **(Original)** The method of Claim 1, wherein the new values of the parents represent demand forecasts to be allocated to the children.

3. **(Original)** The method of Claim 1, wherein the variation of each child is calculated using statistical techniques based on the historical variation in the values of the child over a specified time period.

4. **(Currently Amended)** The method of Claim 1, wherein the new value of each child is determined using the equation:

$$\bar{x}' = \bar{x} + \Sigma R^T (R\Sigma R^T)^{-1}(\bar{y} - R\bar{x}),$$

in which $\bar{x}'$ comprises a vector of the new values of the children, $\bar{x}$ comprises a vector of the current values of the children, Σ comprises a matrix of the variations of the children, R comprises a matrix identifying the parent-child relationships, $\underline{R^T \text{ comprises the transpose of } R}$, and $\bar{y}$ comprises a vector of the new values of the parents.

5. **(Original)** The method of Claim 1, wherein the new value of each child is determined using the equation:

$$\bar{x}'_i = \bar{x}_i + \frac{\sigma_{i,i}}{\sum_i \sigma_{i,i}} (\bar{y} - \sum_i \bar{x}_i),$$

in which $\bar{x}'_i$ comprises the new value of the child i, $\bar{x}_i$ comprises the current value associated with a child i, $\sigma_{i,i}$ comprises the variation of the child i, $\sum_i \sigma_{i,i}$ comprises the sum of the variations of the children, $\sum_i \bar{x}_i$ comprises the sum of the current values of the children, and $\bar{y}$ comprises the new value of the parent of the child i.

6. **(Original)** The method of Claim 1, wherein:
the organization of data comprises one or more dimensions; and
the parents and children are all members of the same dimension within the organization of data.

7. **(Original)** The method of Claim 1, wherein:
the organization of data comprises multiple dimensions; and
the parents and children are each associated with multiple dimensions of the organization of data.

8. **(Original)**   The method of Claim 7, wherein the parents and children each represent a storage location within the organization of data that is uniquely identified by the positions of members in two or more of the dimensions.

9. **(Original)**   The method of Claim 7, wherein the organization of data comprises at least two dimensions selected from the group consisting of a time dimension, a product dimension, and a geography dimension.

10.   **(Original)**   A system for allocating data in a hierarchical organization of data, comprising:

data storage including:

one or more parents having associated values; and

a plurality of children having associated values, each child being hierarchically related to one or more of the parents; and

a server coupled to the organization of data and operable to:

receive a new value for one or more of the parents;

receive a current value for one or more of the children;

receive an identification of the relationship between each parent and its children;

receive a variation for each child; and

determine a new value for each child by allocating the new values of the parents to the children based on the parent-child relationships, the current values of the children, and the variations of the children.

11.   **(Original)**   The system of Claim 10, wherein the new values of the parents represent demand forecasts to be allocated to the children.

12.   **(Original)**   The system of Claim 10, wherein the variation of each child is calculated using statistical techniques based on the historical variation in the values of the child over a specified time period.

13.   **(Currently Amended)** The system of Claim 10, wherein the server is operable to determine the new value of each child using the equation:

$$\bar{x}' = \bar{x} + \Sigma R^T (R\Sigma R^T)^{-1} (\bar{y} - R\bar{x}),$$

in which $\bar{x}'$ comprises a vector of the new values of the children, $\bar{x}$ comprises a vector of the current values of the children, Σ comprises a matrix of the variations of the children, R comprises a matrix identifying the parent-child relationships, $\underline{R^T\ comprises\ the\ transpose\ of\ R,}$ and $\bar{y}$ comprises a vector of the new values of the parents.

14.   **(Original)**   The system of Claim 10, wherein the server is operable to determine the new value of each child is determined using the equation:

$$\bar{x}'_i = \bar{x}_i + \frac{\sigma_{i,i}}{\sum_i \sigma_{i,i}} (\bar{y} - \sum_i \bar{x}_i),$$

in which $\bar{x}'_i$ comprises the new value of the child i, $\bar{x}_i$ comprises the current value associated with a child i, $\sigma_{i,i}$ comprises the variation of the child i, $\sum_i \sigma_{i,i}$ comprises the sum of the variations of the children, $\sum_i \bar{x}_i$ comprises the sum of the current values of the children, and $\bar{y}$ comprises the new value of the parent of the child i.

15.   **(Original)**   The system of Claim 10, wherein:
the organization of data comprises one or more dimensions; and
the parents and children are all members of the same dimension within the organization of data.

16.   **(Original)**   The system of Claim 10, wherein:
the organization of data comprises multiple dimensions; and
the parents and children are each associated with multiple dimensions of the organization of data.

17. **(Original)** The system of Claim 16, wherein the parents and children each represent a storage location within the organization of data that is uniquely identified by the positions of members in two or more of the dimensions.

18. **(Original)** The system of Claim 16, wherein the organization of data comprises at least two dimensions selected from the group consisting of a time dimension, a product dimension, and a geography dimension.

19. **(Original)** Software for allocating data in a hierarchical organization of data, the software embodied in a computer-readable medium and operable to:

determine new values for one or more parents in the organization of data;

determine current values for one or more children in the organization of data, each child being hierarchically related to one or more of the parents;

determine the relationship between each parent and its children;

determine a variation for each child; and

determine a new value for each child by allocating the new values of the parents to the children based on the parent-child relationships, the current values of the children, and the variations of the children.

20. **(Original)** The software of Claim 19, wherein the new values of the parents represent demand forecasts to be allocated to the children.

21. **(Original)** The software of Claim 19, wherein the variation of each child is calculated using statistical techniques based on the historical variation in the values of the child over a specified time period.

22. **(Currently Amended)** The software of Claim 19, wherein the new value of each child is determined using the equation:

$$\bar{x}' = \bar{x} + \Sigma R^T (R\Sigma R^T)^{-1}(\bar{y} - R\bar{x}),$$

in which $\bar{x}'$ comprises a vector of the new values of the children, $\bar{x}$ comprises a vector of the current values of the children, Σ comprises a matrix of the variations of the children, R comprises a matrix identifying the parent-child relationships, $\underline{R^T \text{ comprises the transpose of } R,}$ and $\bar{y}$ comprises a vector of the new values of the parents.

23.   (Original)   The software of Claim 19, wherein the new value of each child is determined using the equation:

$$\bar{x}'_i = \bar{x}_i + \frac{\sigma_{i,i}}{\sum_i \sigma_{i,i}} (\bar{y} - \sum_i \bar{x}_i),$$

in which $\bar{x}'_i$ comprises the new value of the child i, $\bar{x}_i$ comprises the current value associated with a child i, $\sigma_{i,i}$ comprises the variation of the child i, $\sum_i \sigma_{i,i}$ comprises the sum of the variations of the children, $\sum_i \bar{x}_i$ comprises the sum of the current values of the children, and $\bar{y}$ comprises the new value of the parent of the child i.

24.   (Original)   The software of Claim 19, wherein:

the organization of data comprises one or more dimensions; and

the parents and children are all members of the same dimension within the organization of data.

25.   (Original)   The software of Claim 19, wherein:

the organization of data comprises multiple dimensions; and

the parents and children are each associated with multiple dimensions of the organization of data.

26.   (Original)   The software of Claim 25, wherein the parents and children each represent a storage location within the organization of data that is uniquely identified by the positions of members in two or more of the dimensions.

27.   (Original)   The software of Claim 25, wherein the organization of data comprises at least two dimensions selected from the group consisting of a time dimension, a product dimension, and a geography dimension.

28. **(Original)**   A system for allocating data in a hierarchical organization of data, comprising:

means for determining new values for one or more parents in the organization of data;

means for determining current values for one or more children in the organization of data, each child being hierarchically related to one or more of the parents;

means for determining the relationship between each parent and its children;

means for determining a variation for each child; and

means for determining a new value for each child by allocating the new values of the parents to the children based on the parent-child relationships, the current values of the children, and the variations of the children.

29.   (Currently Amended) A computer-implemented method for allocating data in a hierarchical, multi-dimensional organization of data, comprising:

determining demand forecasts for one or more parents in the organization of data;

determining current demand values for one or more children in the organization of data, each child being hierarchically related to one or more of the parents;

determining the relationship between each parent and its children, the parents and children each representing a storage location within the organization of data that is uniquely identified by the positions of members in two or more dimensions of the organization of data;

determining a variation for each child, the variation calculated using statistical techniques based on the historical variation in the values of the child over a specified time period; and

determining a new demand value for each child by allocating the demand forecasts for the parents to the children based on the parent-child relationships, the current demand values of the children, and the variations of the children.

30.   (Currently Amended) The method of Claim 29, wherein the new demand value of each child is determined using the equation:

$$\bar{x}' = \bar{x} + \sum R^T (R \sum R^T)^{-1} (\bar{y} - R\bar{x}),$$

in which $\bar{x}'$ comprises a vector of the new demand values of the children, $\bar{x}$ comprises a vector of the current demand values of the children, $\sum$ comprises a matrix of the variations of the children, R comprises a matrix identifying the parent-child relationships, R^T comprises the transpose of R, and $\bar{y}$ comprises a vector of the demand forecasts of the parents.

31. **(Original)** A system for allocating data in a hierarchical, multi-dimensional organization of data, comprising:

a hierarchical, multi-dimensional organization of data including:

one or more parents having demand associated values; and

a plurality of children having associated demand values, each child being hierarchically related to one or more of the parents;

the parents and children each representing a storage location within the organization of data that is uniquely identified by the positions of members in two or more dimensions of the organization of data; and

a server coupled to the organization of data and operable to:

receive a forecasted demand value for one or more of the parents;

receive a current demand value for one or more of the children;

receive an identification of the relationship between each parent and its children;

receive a variation for each child, the variation calculated using statistical techniques based on the historical variation in the values of the child; and

determine a new demand value for each child by allocating the demand forecasts of the parents to the children based on the parent-child relationships, the current demand values of the children, and the variations of the children.

32. **(Currently Amended)** The system of Claim 31, wherein the new demand value of each child is determined using the equation:

$$\bar{x}' = \bar{x} + \Sigma R^T (R \Sigma R^T)^{-1} (\bar{y} - R\bar{x}),$$

in which $\bar{x}'$ comprises a vector of the new demand values of the children, $\bar{x}$ comprises a vector of the current demand values of the children, Σ comprises a matrix of the variations of the children, R comprises a matrix identifying the parent-child relationships, $\underline{R^T}$ comprises the transpose of $\underline{R}$, and $\bar{y}$ comprises a vector of the demand forecasts of the parents.

33. **(Original)** Software for allocating data in a hierarchical organization of data, the software embodied in a computer-readable medium and operable to:

determine demand forecasts for one or more parents in the organization of data;

determine current demand values for one or more children in the organization of data, each child being hierarchically related to one or more of the parents;

determine the relationship between each parent and its children, the parents and children each representing a storage location within the organization of data that is uniquely identified by the positions of members in two or more dimensions of the organization of data;

determine a variation for each child, the variation calculated using statistical techniques based on the historical variation in the values of the child; and

determine a new demand value for each child by allocating the demand forecasts for the parents to the children based on the parent-child relationships, the current demand values of the children, and the variations of the children.

34. **(Currently Amended)** The software of Claim 33, wherein the new demand value of each child is determined using the equation:

$$\bar{x}' = \bar{x} + \Sigma R^T (R\Sigma R^T)^{-1}(\bar{y} - R\bar{x}),$$

in which $\bar{x}'$ comprises a vector of the new demand values of the children, $\bar{x}$ comprises a vector of the current demand values of the children, Σ comprises a matrix of the variations of the children, R comprises a matrix identifying the parent-child relationships, $\underline{R^T \text{ comprises the transpose of } R,}$ and $\bar{y}$ comprises a vector of the demand forecasts of the parents.